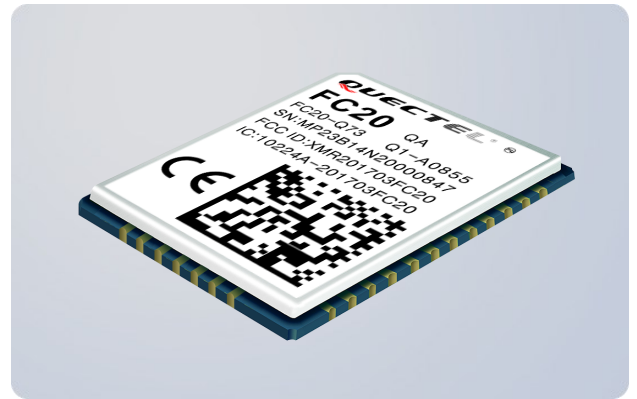


# Quectel FC20

## Wi-Fi Module with Ultra-compact LCC Package



FC20 is a series of Wi-Fi module featuring high performance and low cost. Designed in ultra-compact 16.6mm × 13.0mm × 2.1mm profile, it optimizes the size and cost for end-products, which fully meets the demands of size sensitive applications. FC20 contains two variants (FC20 and FC20-N) which can be adapted to different application scenarios.

Surface-mount technology (SMT) makes FC20 an ideal solution for durable and rugged designs. The low profile and small size of LCC package make sure FC20 can be easily embedded into size-constrained applications and provide reliable connectivity with these applications. The advanced package allows for large-scale automated manufacturing which has strict requirements on cost and efficiency.

Combining advantages such as compact form factor, low power consumption, extended temperature range and stable SDIO interface, FC20 is typically used in combination with Quectel EC25, EC21 or EC20 R2.1 modules to serve a wide range of M2M applications, such as automotive, security, industrial PDA, MiFi, and medical.



### Key Benefits

- ✓ Ultra-compact Wi-Fi module
- ✓ Support IEEE802.11a/b/g/n/ac standards
- ✓ Easier soldering and testing process with LCC package
- ✓ Stable and reliable SDIO communication interface
- ✓ Fast time-to-market: simple design minimizes design-in time and development efforts



Ultra Compact  
Size



LCC Package



IEEE802.11 a/b/g/n/ac  
Standards



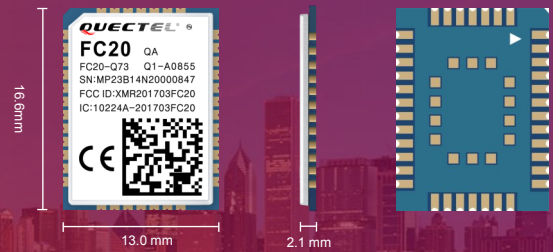
SDIO  
Interface



Extended Temperature  
Range: -40°C ~ +85°C

# Quectel FC20

## Wi-Fi Module with Ultra-compact LCC Package



### Variants for the Global

#### FC20<sup>①</sup>:

Function: Wi-Fi 2.4GHz+5GHz

WLAN Standard: 802.11a/b/g/n/ac

Modulation Mode:

BPSK, QPSK, CCK, 16QAM, 64QAM, 256QAM

#### FC20-N<sup>①</sup>:

Function: Wi-Fi 2.4GHz

WLAN Standard: 802.11b/g/n

Modulation Mode:

BPSK, QPSK, CCK, 16QAM, 64QAM

-88dBm @802.11g/6Mbps

-72dBm @802.11g/54Mbps

-88.5dBm @802.11n/HT20 MCS0

-85dBm @802.11n/HT40 MCS0

-70dBm @802.11n/HT20 MCS7

-67dBm @802.11n/HT40 MCS7

-90dBm @802.11ac/VHT20 MCS0

-87dBm @802.11ac/VHT40 MCS0

-67dBm @802.11ac/VHT20 MCS7

-62dBm @802.11ac/VHT40 MCS9

-84dBm @802.11ac/VHT80 MCS0

-59dBm @802.11ac/VHT80 MCS9

#### Transmitting Power:

14.5dBm @802.11a/6Mbps

12.5dBm @802.11a/54Mbps

17.5dBm @802.11b/1Mbps

17.0dBm @802.11b/11Mbps

16.5dBm @802.11g/6Mbps

15.0dBm @802.11g/54Mbps

15.5dBm @802.11n/HT20 MCS0

15.0dBm @802.11n/HT40 MCS0

14.5dBm @802.11n/HT20 MCS7

13.0dBm @802.11n/HT40 MCS7

13.5dBm @802.11ac/VHT20 MCS0

12.0dBm @802.11ac/VHT40 MCS0

11.5dBm @802.11ac/VHT20 MCS7

10.5dBm @802.11ac/VHT40 MCS9

11.5dBm @802.11ac/VHT80 MCS0

10.5dBm @802.11ac/VHT80 MCS9

### Consumption:

0uA @OFF State, 3.3V WLAN Supply Voltage

554uA @OFF State, 1.8V I/O Pins Supply Voltage

66mA @Idle<sup>②</sup>, 3.3V WLAN Supply Voltage

6.5mA @Idle<sup>②</sup>, 1.8V I/O Pins Supply Voltage

### General Features

#### Power Supply Voltage Range:

3.14V~3.46V, 3.3V Typ.

#### I/O Pins Supply Voltage Range:

1.71V~1.89V, 1.8V Typ.

#### Encryption Mode:

WEP, TKIP, AES, WPA-PSK, WPA2-PSK

AP (Max Access Point): 16

Operator Mode: AP, STA\*

Temperature Range: -40°C ~ +85°C

Dimension: 16.6mm × 13.0mm × 2.1mm

Weight: 0.81g

\* Under Development

① FC20/FC20-N Must be Used Together with EC25/EC21/EC20 R2.1.

② WLAN Enabled without Device Connected.

### Data Rate

802.11a: Max 54Mbps

802.11b: Max 11Mbps

802.11g: Max 54Mbps

802.11n: Max 150Mbps

802.11ac: Max 433Mbps

### Interfaces

SDIO × 1 (SDIO 3.0)

DBG\_TXD × 1 (Used for Software Debugging)

32KHz\_IN × 1 (Used in Low Power Modes)

Wi-Fi Antenna Interface × 1

### Electrical Characteristics

#### Receiving Sensitivity:

-90dBm @802.11a/6Mbps

-74dBm @802.11a/54Mbps

-92dBm @802.11b/1Mbps

-85dBm @802.11b/11Mbps